



**Never Make Predictions,  
Especially About The Future:  
What TRIZ Tells Us About  
Sustainability In 2030**

Darrell Mann



# Conclusions

- Work on autonomous vehicles is futile
- The global patent system is killing innovation
- ‘Sustainable innovations’ expecting customers to compromise on cost or performance are doomed to fail
- Sustainability should stay ‘under the radar’ for the next 5-8 years
- After the Crisis, the tide will definitely be in the sustainability direction... be ready for it



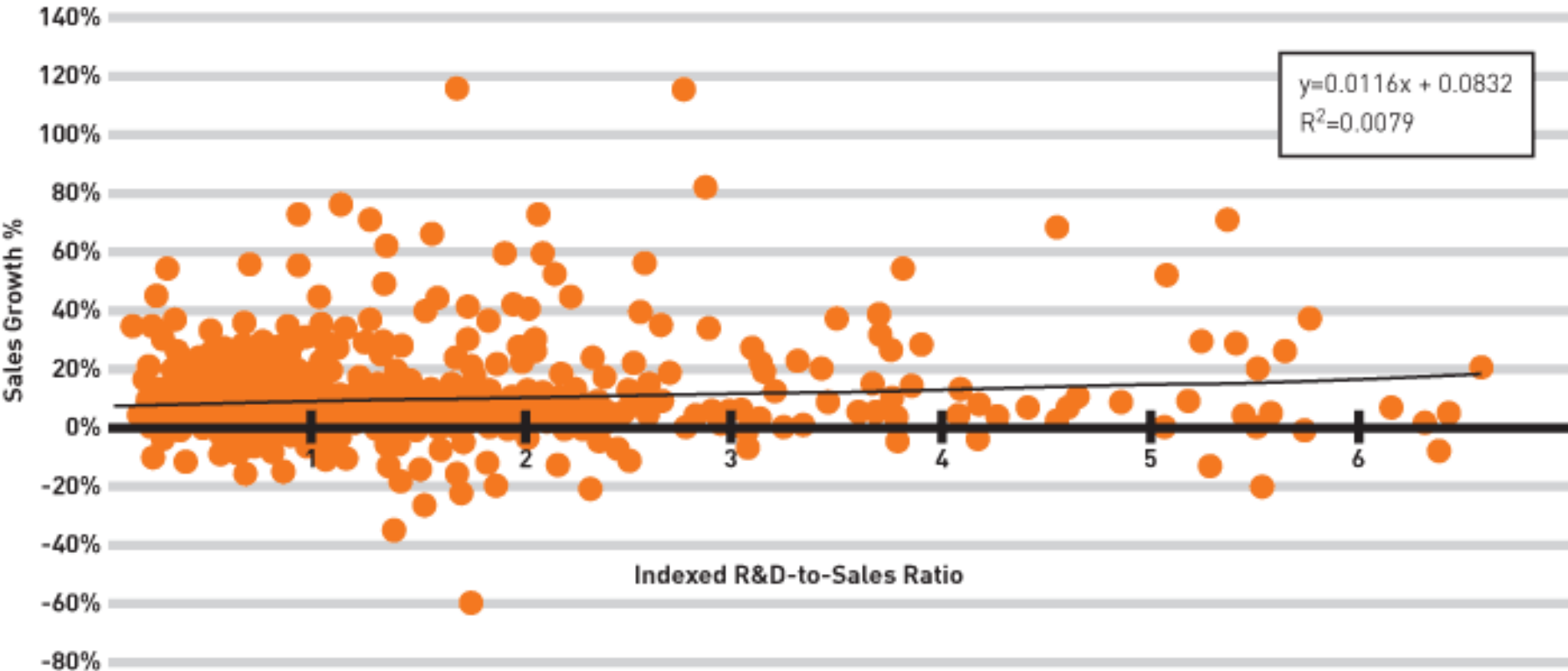
# Some of our clients from the last 20 yrs:



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# Innovation versus Operational Excellence

Exhibit 1: The Performance Disconnect

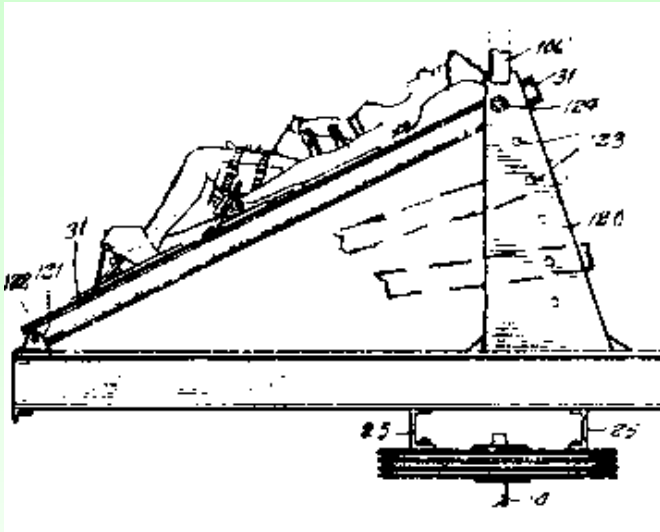


Source: Booz Allen Hamilton Global Innovation 1000

Averages are meaningless in the innovation context.  
The real question is what did the companies at the top do that the other didn't?

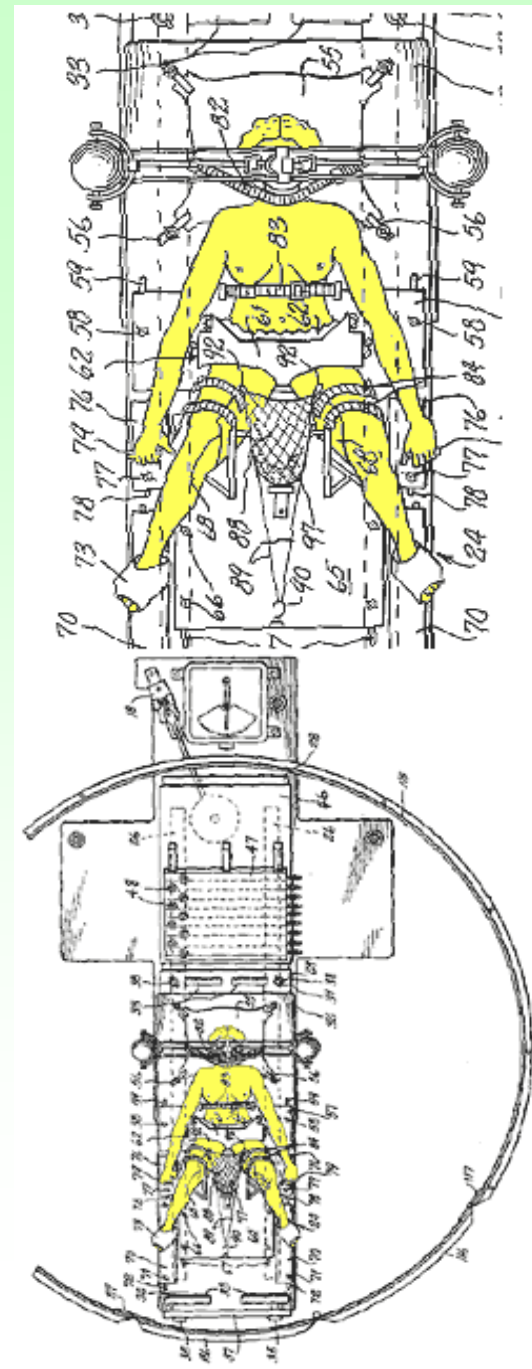


# Innovation?

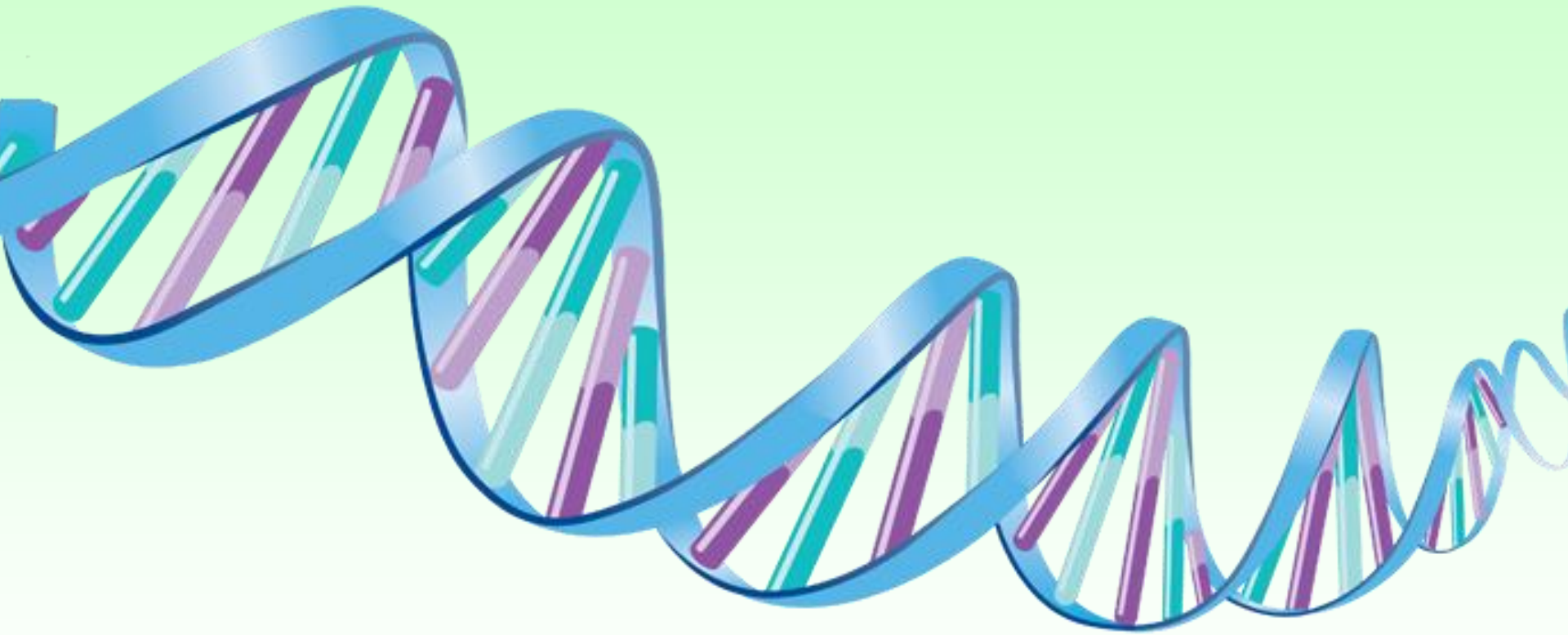


US Patent 3,216,423

98% of attempted  
'innovations' fail



# What Is Happening Here?



**What did the 2% do differently?**





The Political Brain



THE ROLE OF EMOTION IN DECIDING THE FATE OF THE NATION

Karma Queens,  
**GEEK GODS**  
& Innerpreneurs

Meet the 9 Consumer Types Shaping Today's Marketplace



THE HUMMER AND THE MINI



NAVIGATING THE CONTRADICTIONS OF THE NEW TREND LANDSCAPE



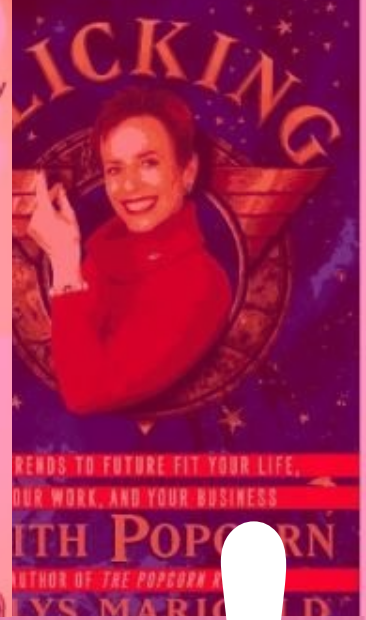
ROBYN WATERS  
Author of The Trendmaster's Guide  
Former Vice President of Trend, Design, and Product Development at Target

Surprising tales of the way we live today



fascinating ... fun!  
Independent

The Trendmaster's Guide  
Get a Jump on What's Next  
by Robyn Waters



TRENDS TO FUTURE FIT YOUR LIFE, YOUR WORK, AND YOUR BUSINESS  
WITH POPCORN  
AUTHOR OF THE POPCORN VS. MARIJUANA

# Wrong!

NEW DIRECTIONS  
TRANSFORMING OUR LIVES  
Updated Especially for this Edition!  
With a New Introduction  
John Naisbit



MINDSET  
JOHN NAISBIT  
Futurewise  
Six Faces of Global Change



THE NEXT NOW  
TRENDS FOR THE FUTURE

GATREND ASIA  
John Naisbit



- 1 ast
- 2 rban
- 3 ribal
- 4 niversal
- 5 adical
- 6 thical

heextremefuture  
THE TOP TRENDS THAT WILL RESHAPE THE WORLD IN THE NEXT 20 YEARS  
JAMES CANTON, Ph.D.

THE SCENARIO PLANNING HANDBOOK

2050: GLOBAL WAR BETWEEN  
U.S., TURKEY, POLAND, AND  
JAPAN—THE NEW GREAT POWERS

2100: MEXICO  
CHALLENGES U.S.

2020: CHINA  
FRAGMENTS

2080: SPACE-BASED  
ENERGY POWERS EARTH

# THE NEXT 100 YEARS

A FORECAST for the 21st CENTURY

GEORGE FRIEDMAN

FOUNDER of STRATFOR



98% of Lean-sparked innovation attempts fail  
98% of QFD-sparked innovation attempts fail  
98% of 6Sigma-sparked innovation attempts fail  
98% of Design-Thinking innovation attempts fail  
98% of JTBD-sparked innovation attempts fail  
98% of OBI-sparked innovation attempts fail  
98% of WOIS-sparked innovation attempts fail  
98% of Blue-Ocean innovation attempts fail  
98% of i4i-sparked innovation attempts fail  
98% of Agile-sparked innovation attempts fail  
98% of Scrum-sparked innovation attempts fail  
99.5% of Open Innovation attempts fail



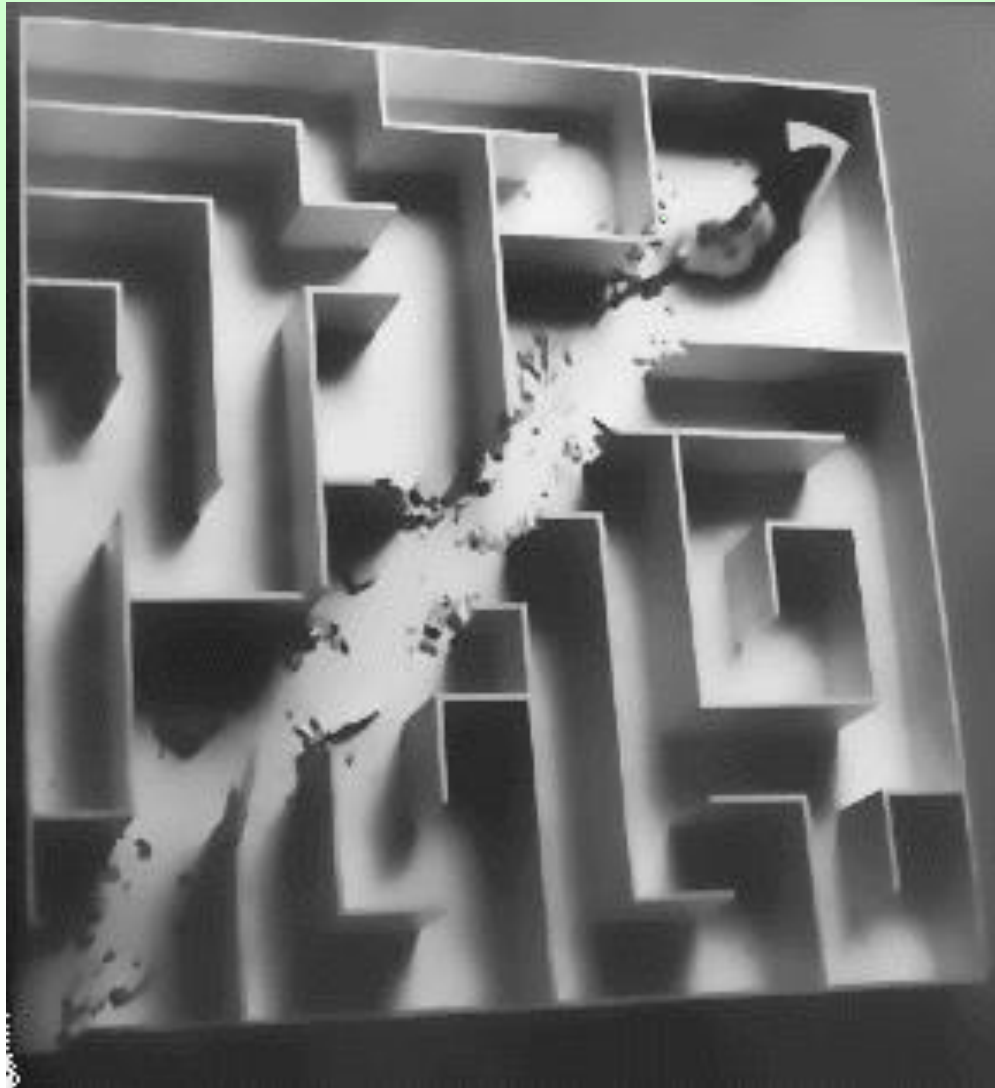


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- \* Ideality is the over-riding driver for system evolution
- \* Ideality is about increasing the good, decreasing the bad
- \* Ideality = 'Value' = 
$$\frac{\text{(Perceived)Benefits}}{\text{(Cost + Harm)}}$$
- \* IDEAL FINAL RESULT – all the benefits, none of the cost or harm
- \* *'free, perfect & now'*
- \* **'SELF'**



# Problem Solving And 'Ideal Final Result'



# CUSTOMER EXPECTATION



**Commodity**



**Product**



**Service**



**Experience Transformation**



Reasons  
For  
Jump

Customer expectations increase with time  
If you stand still, you are actually going  
backwards.  
In order to remain competitive, you should  
be looking to the right along the trend

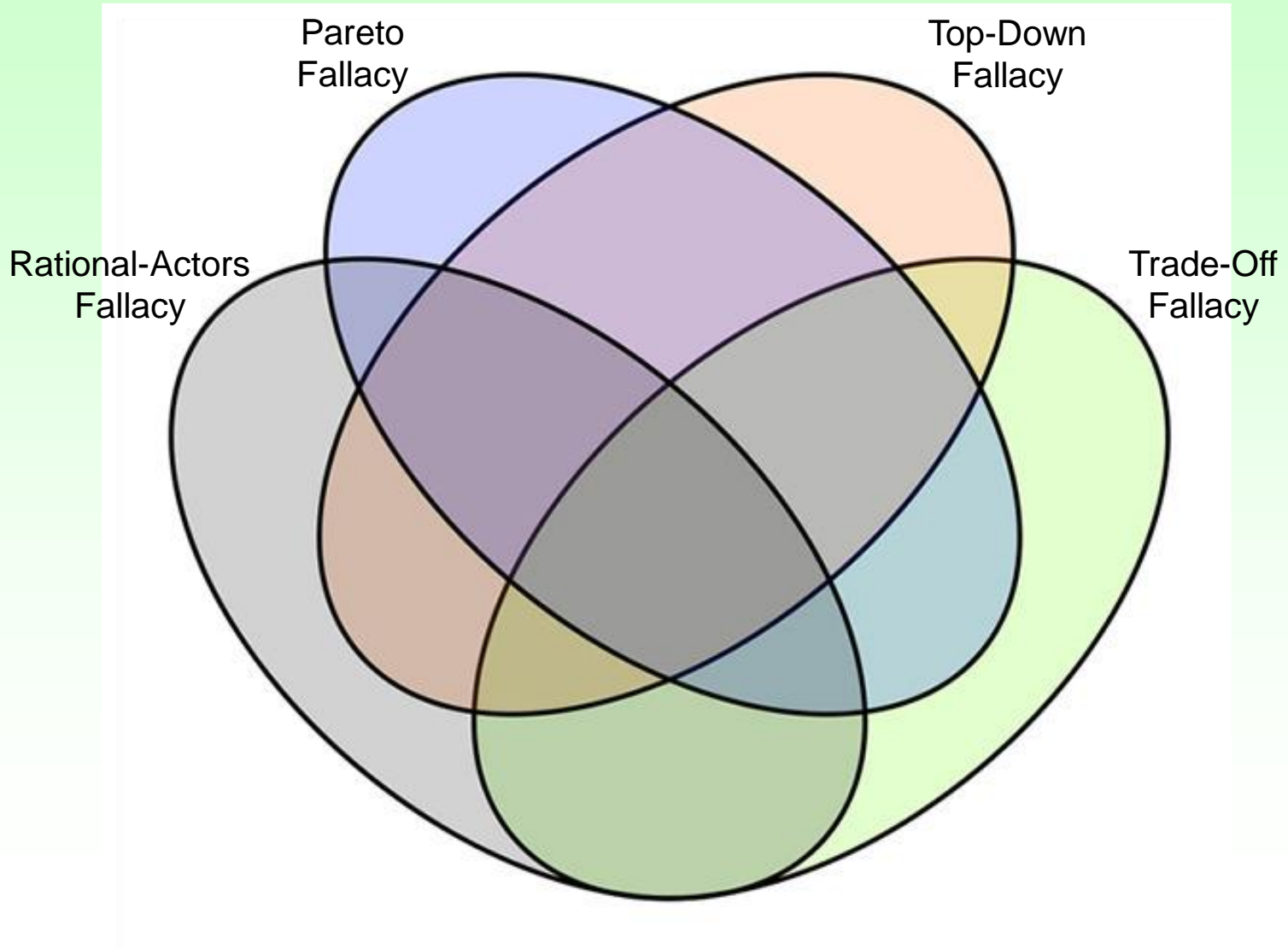
**Key jump motivations:**

Service-experience = intangibles  
Experience-transformation = responsibility

Reasons  
For  
Jump

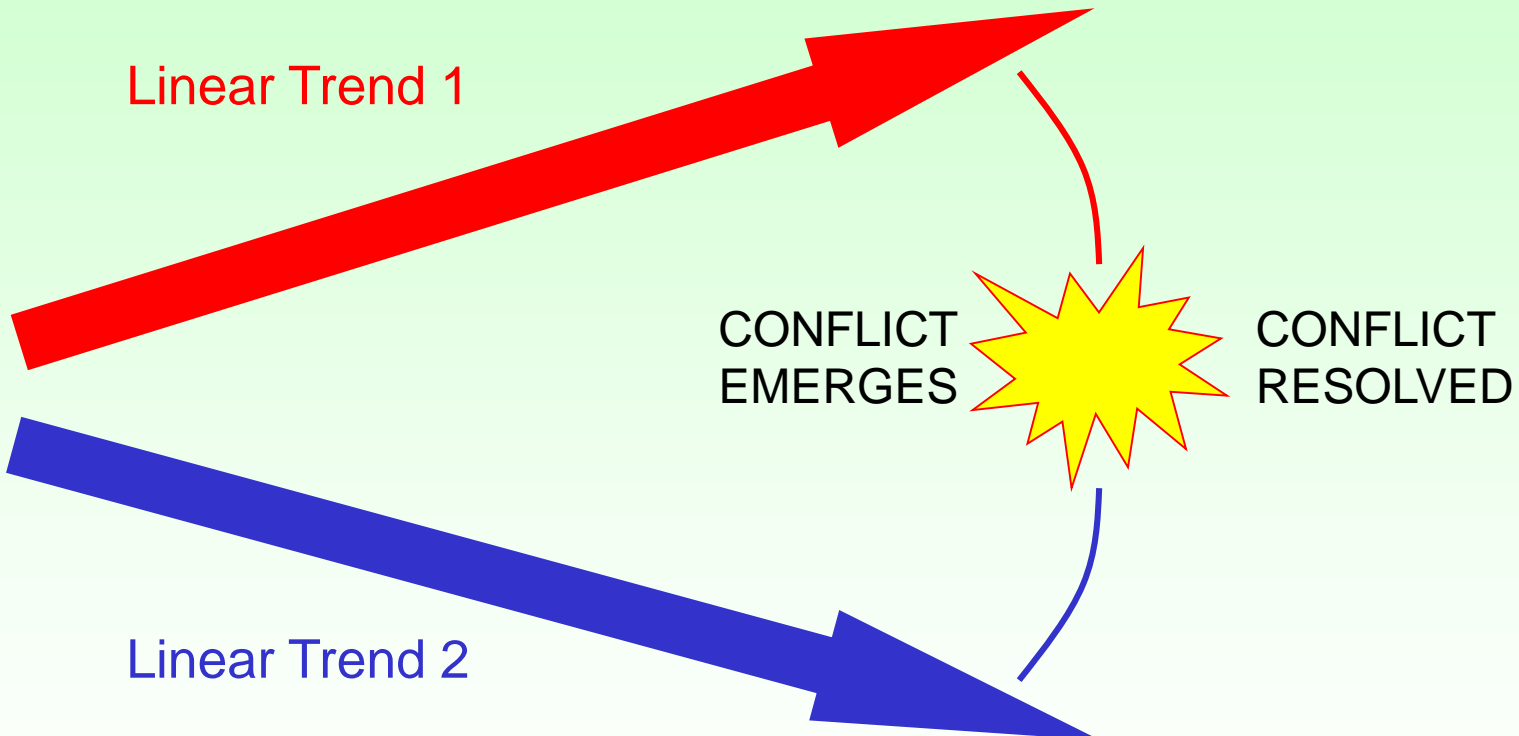


# The Four Great Fallacies



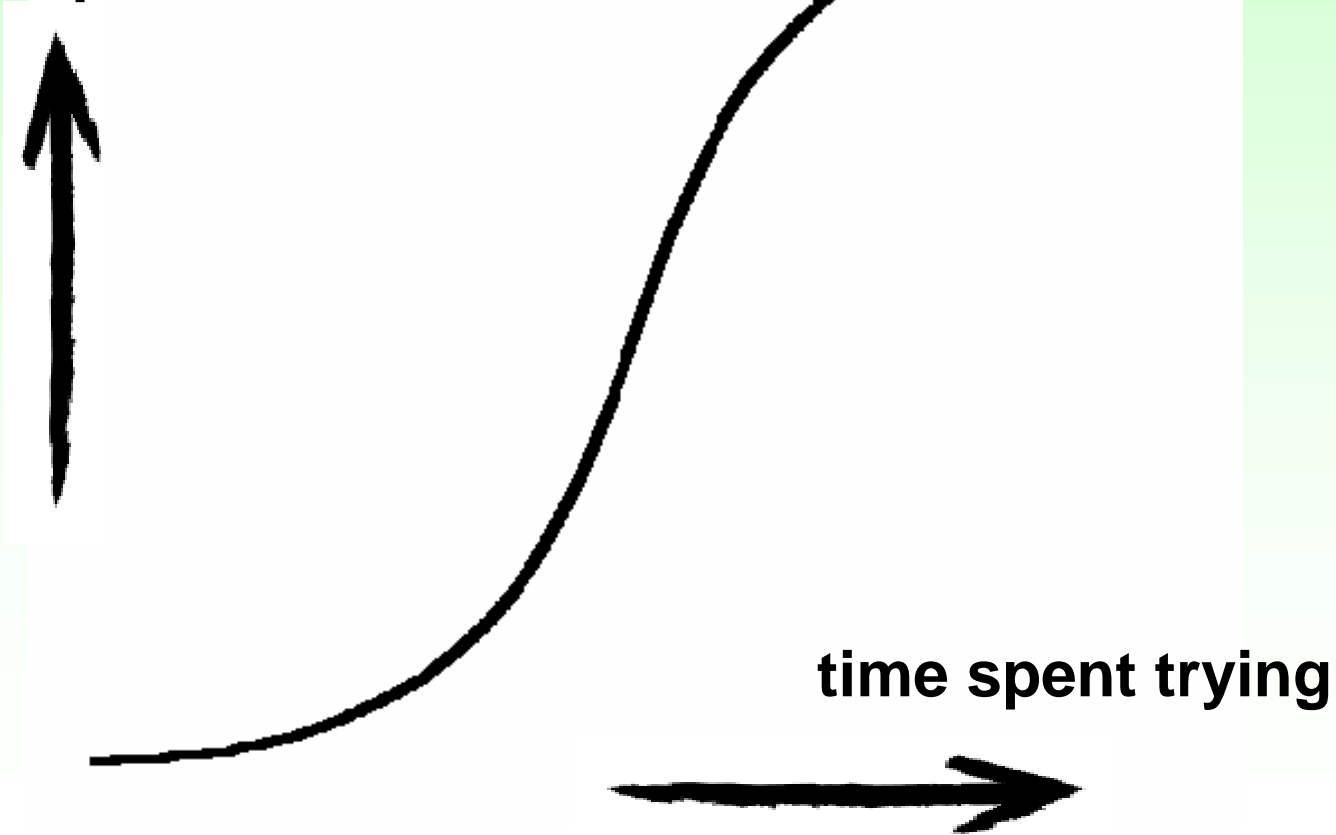


# Linear Trend Patterns Create Conflicts

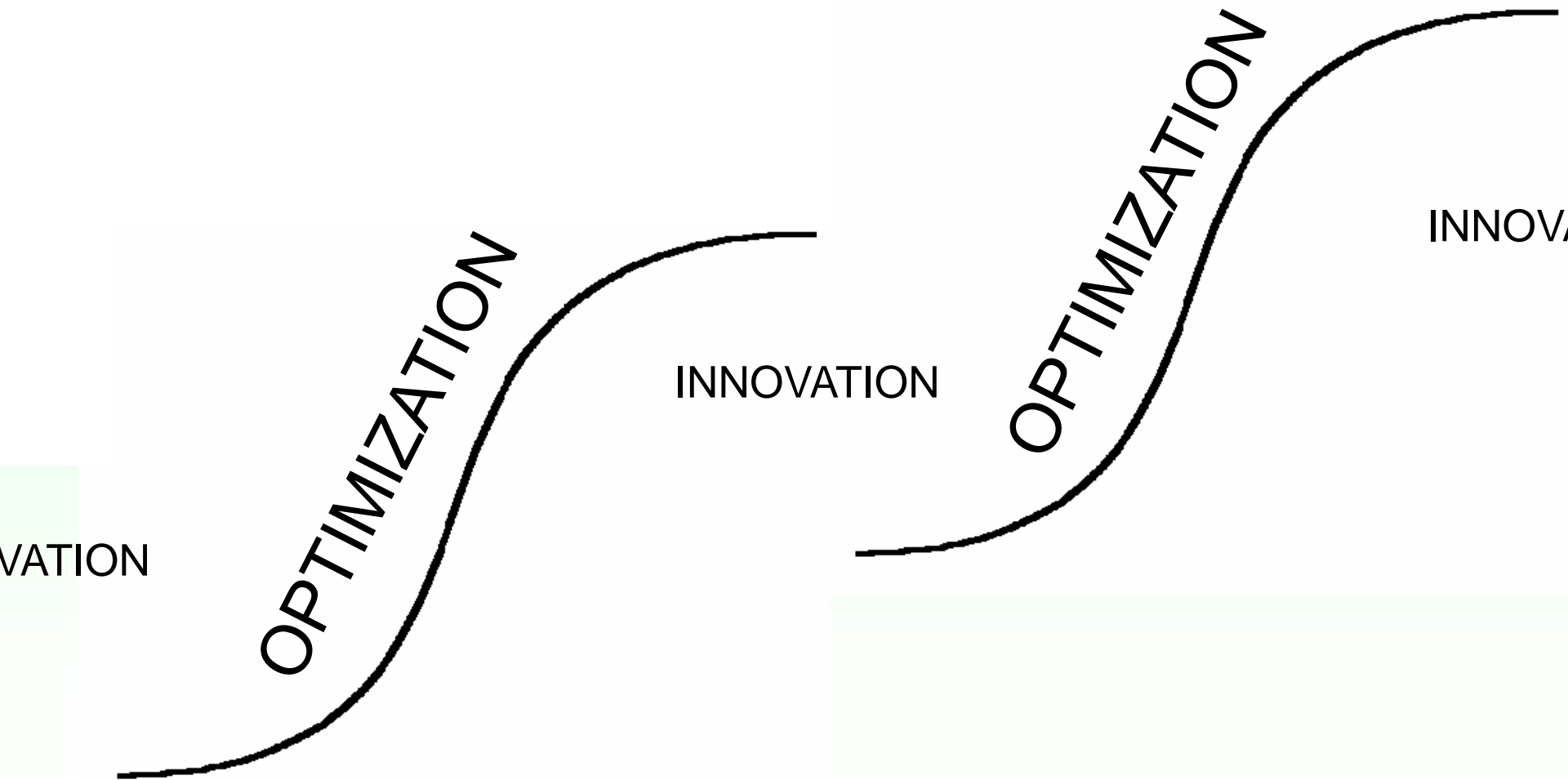


# First Principles: S-Curve

anything we wish  
to improve



# First Principles: S-Curve Jumps



VATION

OPTIMIZATION

INNOVATION

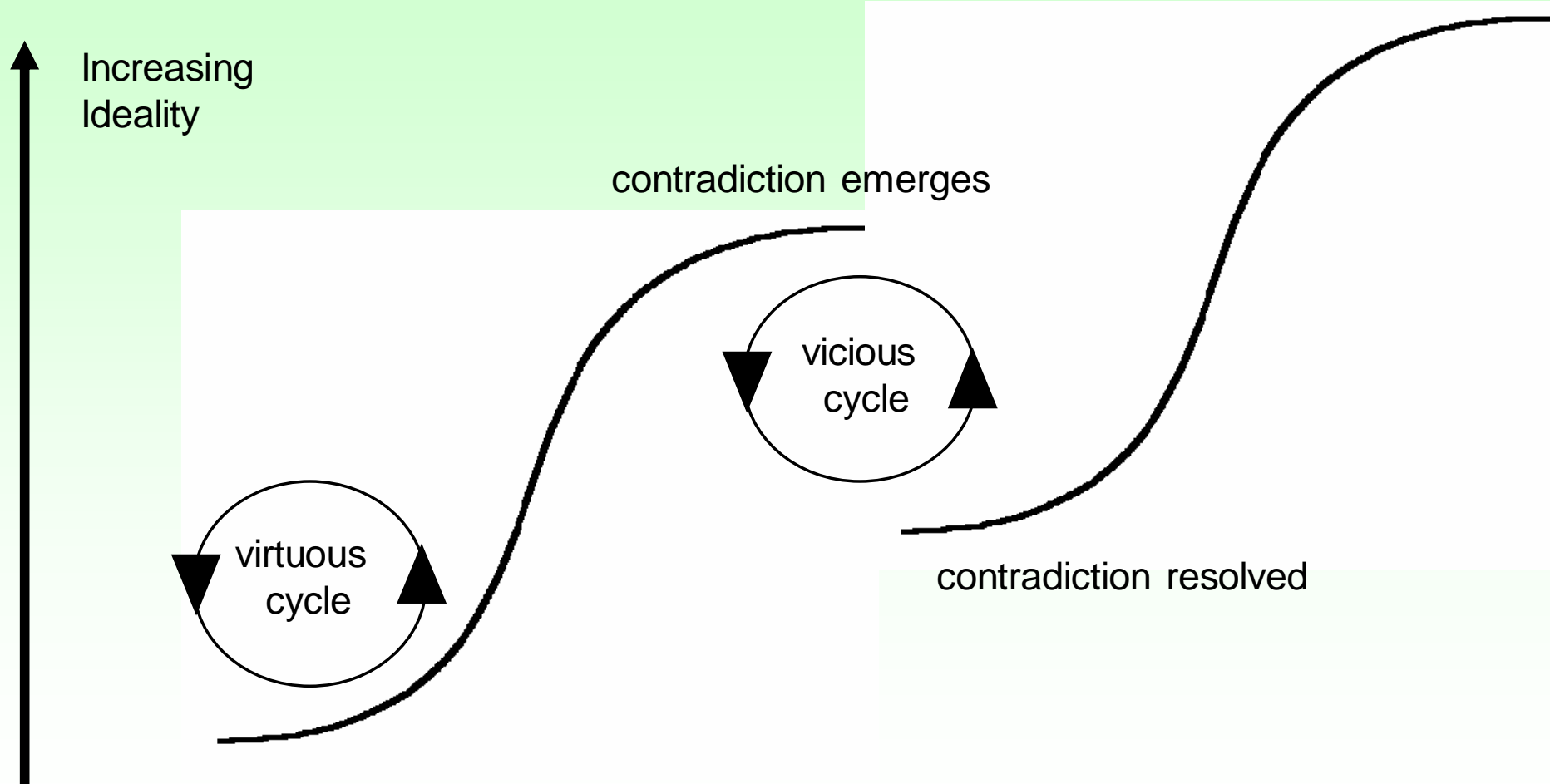
OPTIMIZATION

INNOVATION

Hand-drawn



# First Principles: Cycles



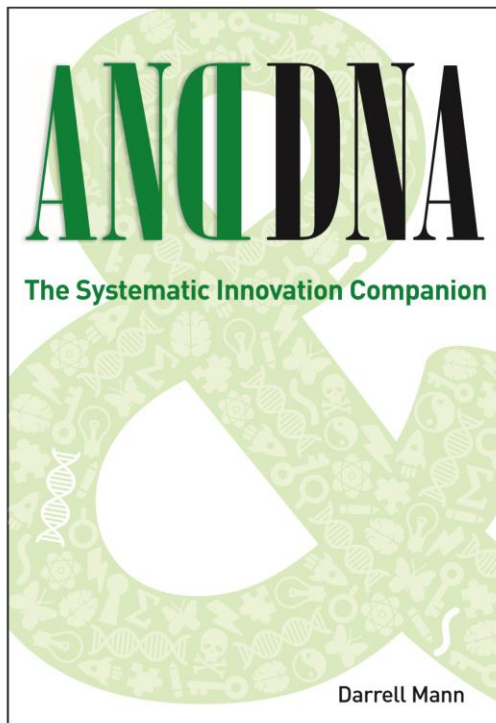
**MILLIONS of systems**

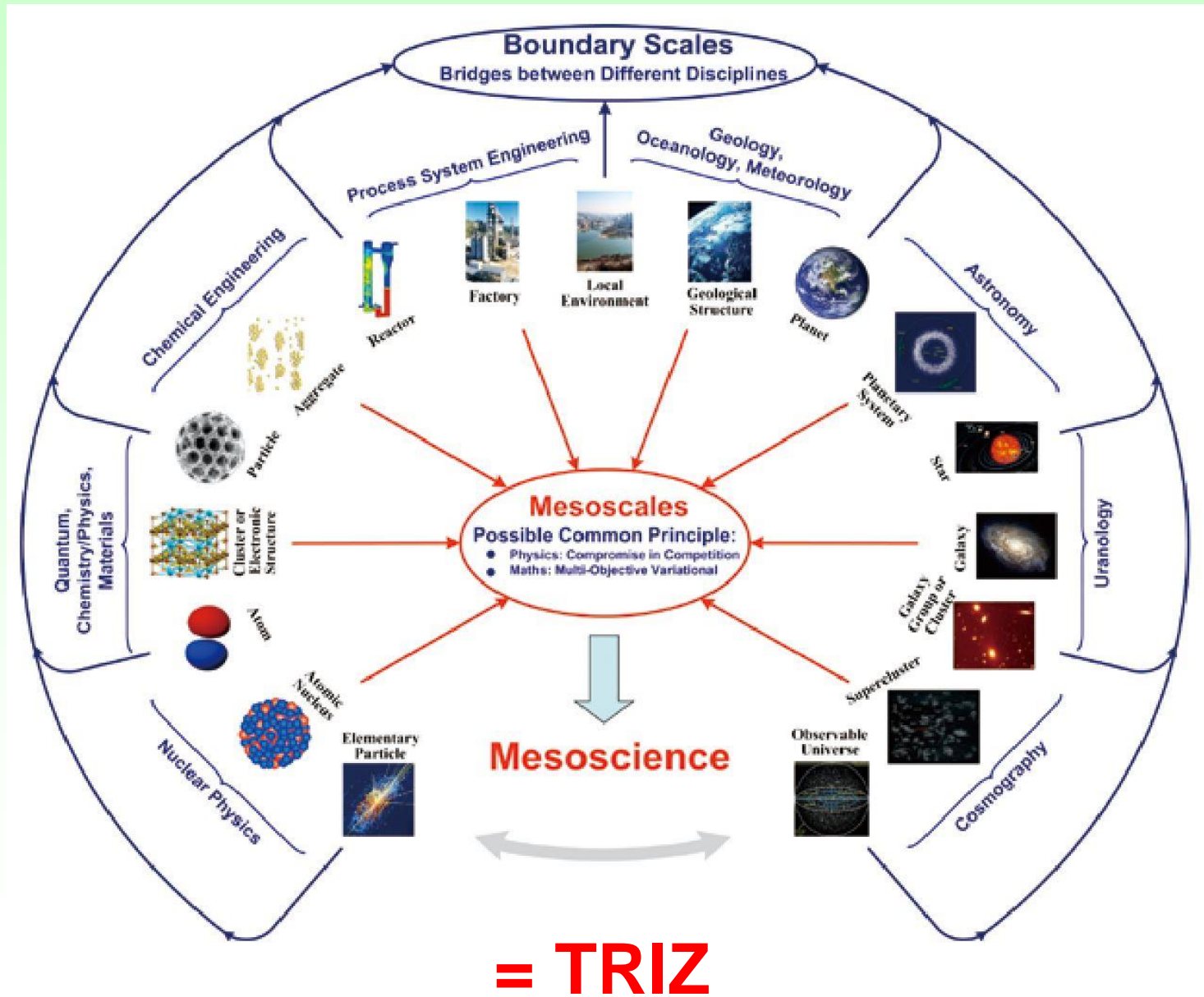


**HUNDREDS of different problems**



**TENS of successful  
(First Principle) solutions**







# Autonomous Vehicle Contradictions

Autonomy Level Jump	Contradiction Problems To Be Solved
Level 1('hands-on') to Level 2 ('hands-off')	<ul style="list-style-type: none"> <li>Sensor reliability</li> <li>Adverse weather reliability</li> <li>Lane marking maintenance</li> <li>Sensor reliability</li> <li>Regulation/legal frameworks</li> <li>Data Protection/'Big Brother'</li> <li>GPS Jammers/pranks</li> </ul>
Level 2 ('hands-off') to Level 3 ('eyes-off')	<ul style="list-style-type: none"> <li>Sleepy-driver</li> <li>People reaction time</li> <li>'Idiocy' problem – unloaded brain mistakes</li> <li>Liability insurance</li> <li>Plastic-bag/cat detection</li> <li>100% signal integrity</li> <li>Geo-fencing (only allowed on some roads)</li> </ul>
Level 3 ('eyes off') to Level 4 ('mind-off')	<ul style="list-style-type: none"> <li>Universal communications protocol</li> <li>Ethics (kill driver or pedestrians?)</li> <li>Hijacker (steps into road to stop vehicle)</li> <li>Certification in realistic situations</li> <li>Test transparency</li> <li>Jaywalking/fencing</li> <li>Bicycles</li> <li>Unplanned roadworks</li> <li>Ambulance/police prioritisation</li> <li>'Common courtesy' polite-algorithms</li> </ul>
Level 4 ('mind-off') to Level 5 ('no steering wheel')	<ul style="list-style-type: none"> <li>All-weather/Off-road</li> <li>Hack-proof/liability</li> <li>100% availability</li> <li>5% of population lose jobs</li> <li>'aggression'/prioritisation algorithms</li> <li>Platooning trucks?</li> <li>Mobility versus vehicle ownership</li> <li>Integration with other transport modes</li> </ul>










**For every complex problem  
there is an answer that is  
clear, simple, and wrong.**

*H. L. Mencken*



CAUSE and  
EFFECT  
relationships  
are often  
highly  
tenuous...



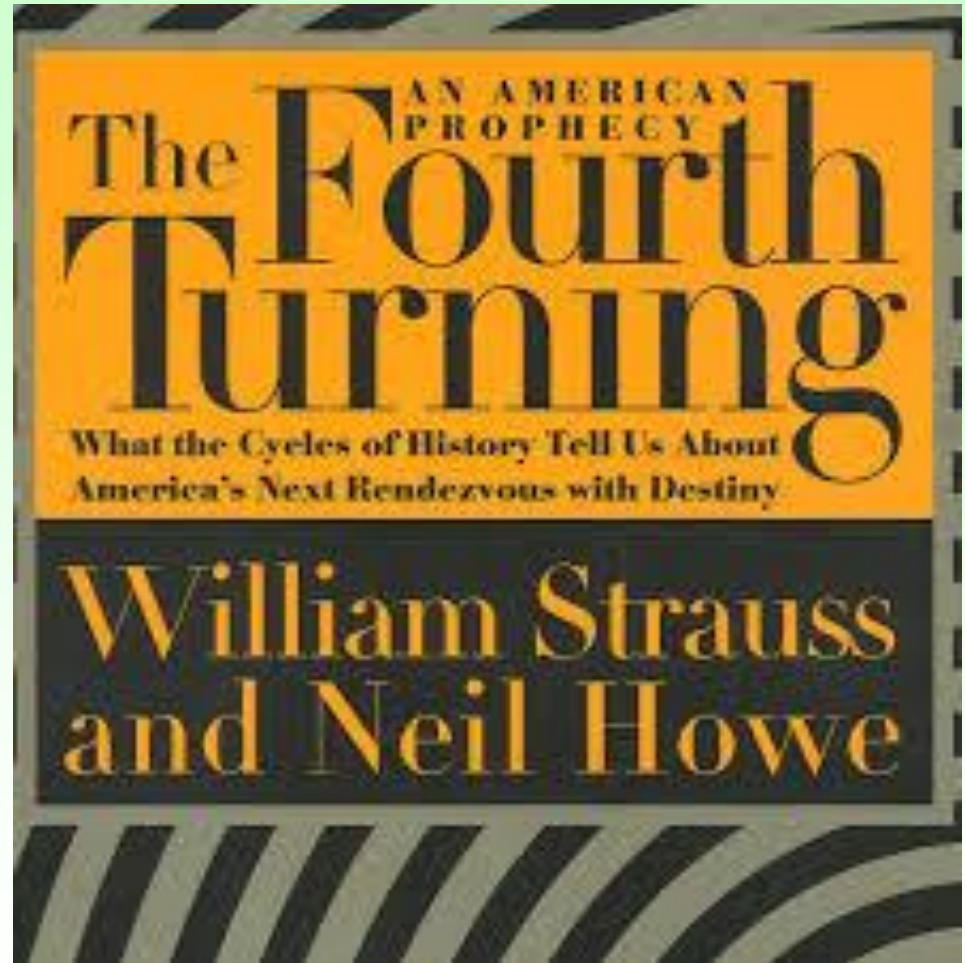
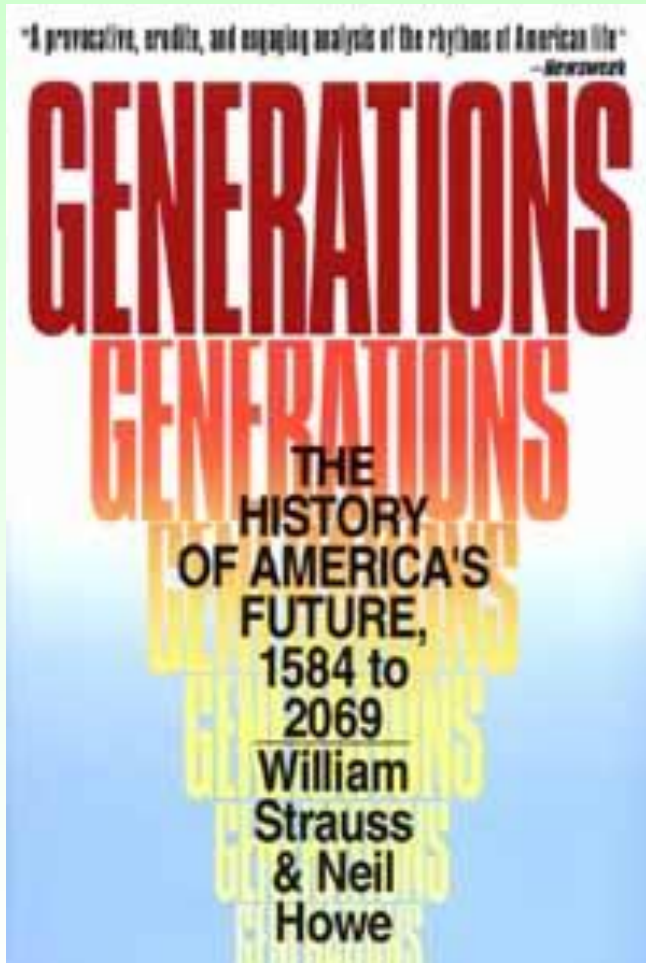
The image features a large, intricate swirling pattern in shades of blue and white, resembling a vortex or a complex flow field. A small butterfly with green and black wings is positioned on the left side, appearing to fly towards the center of the swirl. The background is dark with a pattern of small white dots, suggesting a starry sky or a digital simulation. The text is overlaid on the right side of the image.

...which means  
you can't 'exclude the  
trivial' because it could turn  
out to be the thing that  
triggers a non-linear shift

“fly as close to your neighbours as possible”



# Generation Cycle Research



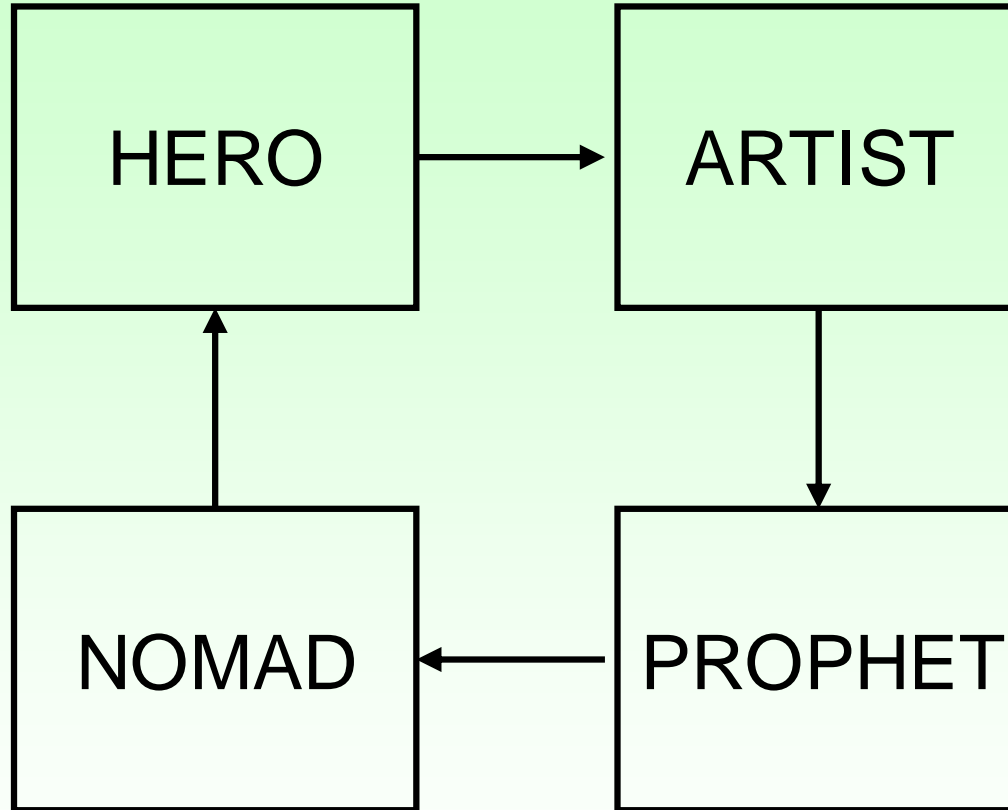
# First Principles:



The manner in which you were raised by your parents  
in turn influences how you raise your children



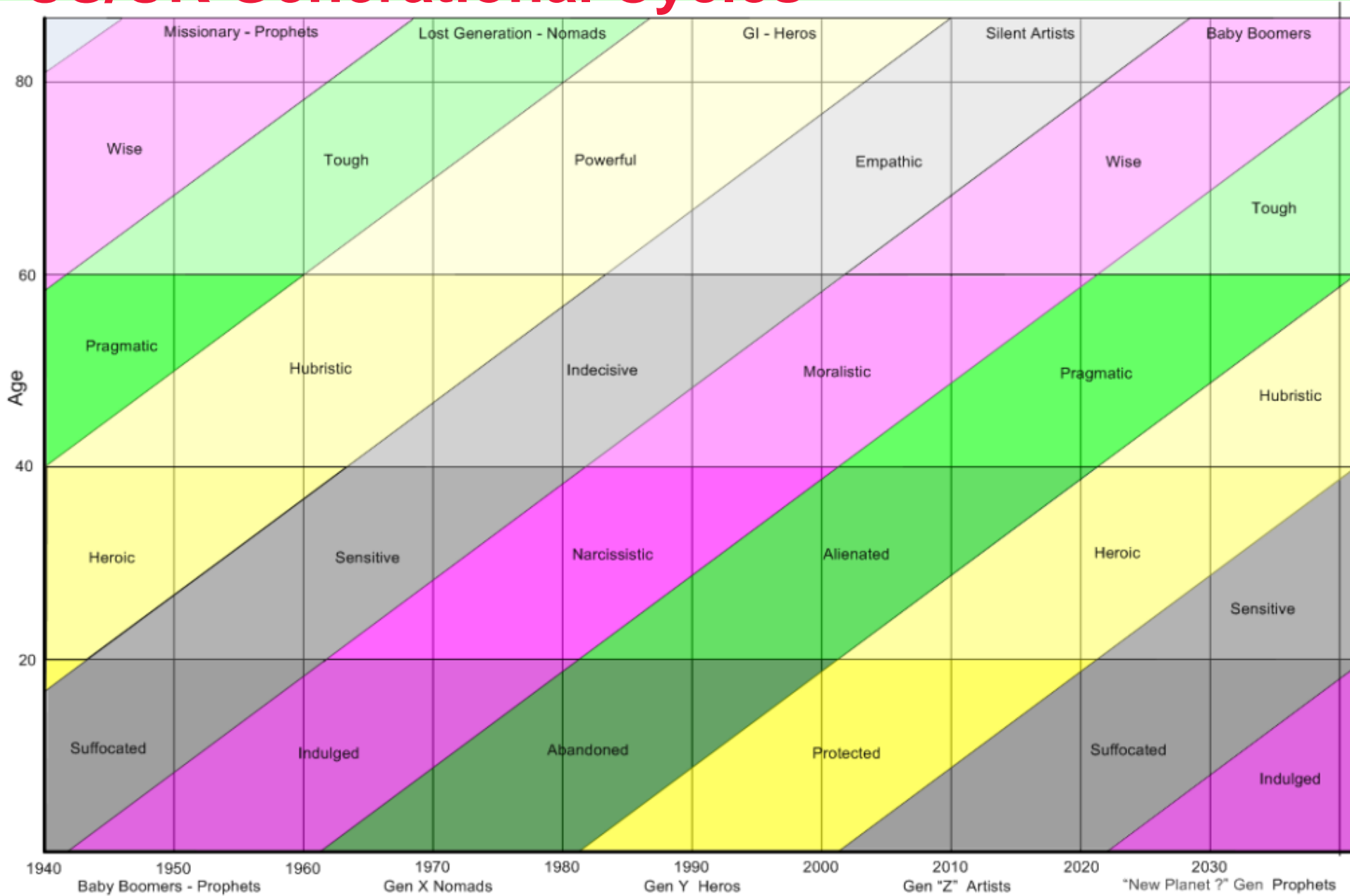
# US/UK Generational Cycles

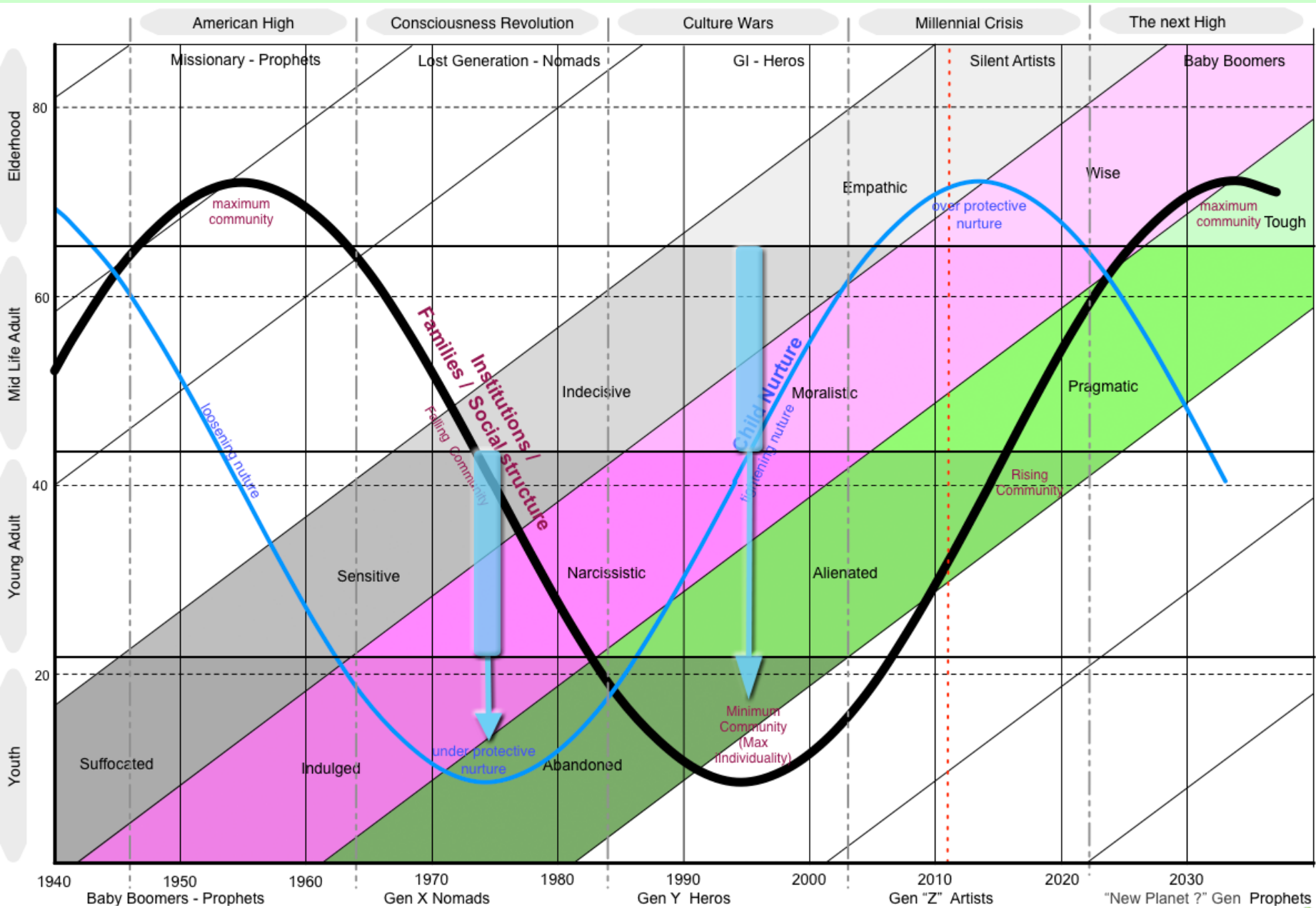


Strauss, W., Howe, N.,  
'The Fourth Turning: An American Prophecy',  
Broadway Books, New York, 1997.

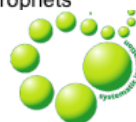


# US/UK Generational Cycles





# The Right (Innovation) Stuff





# BREAK THE PATENT STRANGLEHOLD

[HOME](#)[THE DATABASE OF IDEAS](#)[WE NEED YOUR HELP](#)[RESTRICTIVE PATENTS](#)[WHO WE WILL TAKE ON](#)[WHO ARE WE](#)

## Break the Patent Stranglehold

The patent system was created to support entrepreneurs and encourage innovation – now it does the opposite stifling innovators and new ideas. It was set out to ensure that anyone with a good idea had a window of time to develop and introduce it.

Now patent trolls are using the system to rip off manufacturing companies and large corporations are registering tens of thousands of patents and then sitting on them to create profit by restraining competition.

**HELP US NOW**

<http://breakthepatentstranglehold.com/>

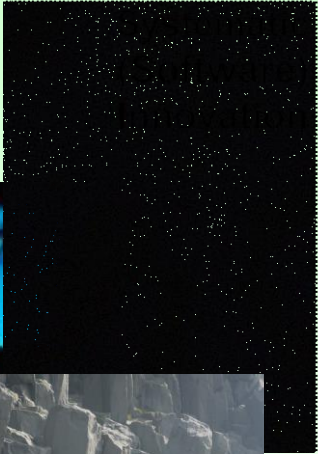


# Innovation... Most Difficult Game In The World?



Right (1<sup>st</sup> Principle) Problem

Right Solution



Right Capability



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